

# The Maury Project

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## LONG-TERM GOALS

The Maury Project is an oceanography-based graduate-level precollege teacher enhancement program, designed to promote the scientific literacy of young people by improving the background of pre-college teachers on the physical foundations of oceanography.

## OBJECTIVES

This project was designed to meet the following objectives:

- (a) Master teachers will be trained to be peer trainers and resource persons on the physical foundations of selected oceanographic issues.
- (b) Self-contained teacher-enhancement instructional modules will be developed, designed for use by the peer trainers in 1- to 2-hour training sessions.
- (c) The peer trainers will arrange and conduct training sessions for other teachers, with support of the AMS.
- (d) A national network of oceanography peer trainers and resource persons will be developed.
- (e) A variety of instructional resource materials on the physical foundations of oceanography and related topics will be prepared and disseminated.

## APPROACH

There were three major components to this program: summer workshops for master precollege teachers, the production of teacher enhancement instructional resource materials, and the peer-training of teachers. The intent was to provide a core group of teachers with the knowledge and instructional resources enabling them, in turn, to peer-train a large number of their peer teachers on selected topics potentially appropriate for pre-college classrooms.

## WORK COMPLETED

In Summer 1998, a two-week workshop for pre-college teachers on the physical foundations of selected oceanographic topics was held at the United States Naval Academy in Annapolis, MD. One new self-contained teacher-training module entitled *El Niño: The Atmosphere-Ocean Connection* was completed for use by the peer trainers who attended the Summer 1998 workshop. An associated instructional resource entitled *El Niño: Enso-Lyzer* was developed and published.

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## **RESULTS**

With the training of 26 new participants in the Summer 1998 Maury Project workshop, a total of 121 teachers representing all 50 states, the District of Columbia, Puerto Rico, American Samoa, South Africa, Canada, Great Britain, Australia, and US Department of Defense Overseas School System have become peer trainers.

## **IMPACT/APPLICATIONS**

All Summer 1998 participants are committed to offer a minimum of two training sessions for pre-college teachers in their home states and regions during the 1998-99 school year. These peer trainers will utilize support materials supplied by the project, including 4,000 printed copies of the new teacher-training guide. To see the multiplicative effect of this program, consider that during the past year, approximately 300 workshops were conducted by peer trainers across the country, reaching over 4,000 teachers, each of whom reaches about 100 students daily.

## **TRANSITIONS**

Originally funded by the NSF for 3 summers starting in 1994, the existing Maury Project Summer Workshops at the Naval Academy received additional NOAA, Navy, and AMS support which made it possible to conduct workshops through Summer 1998.

## **PUBLICATIONS AND PRESENTATIONS**

Over 20 publications or conference presentations were made by Maury Project peer trainers at the 1998 Annual Meeting of the AMS and 1998 National Science Teachers Association Conferences. These and additional publications or presentations made by the Maury Project staff include:

### **PAPERS PRESENTED AT NATIONAL CONFERENCES**

#### **American Meteorological Society, 78th Annual Meeting, Phoenix, AZ, January 1998:**

\*D. Brice, 1998: "The Maury Project: An Outreach Program to Promote the Ocean Sciences in K-12 Classrooms", presented at the 7th Symposium on Education.

\*P.E. Rumpp, 1998: "Kids as Global Scientists at Bala Cynwyd Middle School, presented at the 7th Symposium on Education.

\*A. Kelly (with K. Murphy), 1998: "The Sea and Sky Connection: Tying it all together with Technology", presented at the 7th Symposium on Education.

\*G. Duane, 1998: "Tides in 2-Block Periods Utilizing Maury Module 'Ocean Tides' Plus other Activities", presented at the 7th Symposium on Education (Joint Session with the 2nd Conference on Coastal Atmospheric and Oceanic Prediction and Processes and the 9th Conference on Interaction of the Sea and Atmosphere).

\*G. Rumpp and P. Rumpp, 1998: "Global Oceans: Physical Oceanography Source for Educators on the Web", presented at the 7th Symposium on Education (Joint Session with the 2nd Conference on Coastal Atmospheric and Oceanic Prediction and Processes and the 9th Conference on Interaction of the Sea and Atmosphere).

\*L.E. Greenleaf, 1998: "AMS-AERA Educator and Air-Ocean Response to the 98 FEMA Exercise", presented at the 7th Symposium on Education (Joint Session with the 2nd Conference on Coastal Atmospheric and Oceanic Prediction and Processes and the 9th Conference on Interaction of the Sea and Atmosphere).

### **1998 Ocean Sciences Meeting [Feb 1998]:**

D. Brice, 1998: "The Maury Project".

### **1997 Fall Meeting of the American Geophysical Union [Dec 1997]:**

C. Priewe, 1998: "The Maury Project".

### **1998 National Science Teachers Association Meetings:**

L. Greenleaf, M.A.Fryar, et al. 1998: "Inland Oceanography: Marine Science in a Desert Environment", Presented at the 1998 NSTA National Convention [April 1998].

D. Curry and S. Clark, 1998: "Marine Science Activities", Presented at the 1998 NSTA National Convention [April 1998].

K. Giesting and M.A. Fryar, 1998: "What's Up with the Tide?", Presented at the 1998 NSTA National Convention [April 1998].

J. Mulhauser and C. Priewe, 1998: "Surf's Up! Shallow Water Ocean Waves", Presented at the 1998 NSTA National Convention [April 1998].

D. Mosher and B. Moellenberg, 1998: "Upwellings, Downwellings, and Water in Between", Presented at the 1998 NSTA National Convention [April 1998].

P. Lacey and G. Duane, 1998: "The Maury Project: Ocean Sound", Presented at the 1998 NSTA National Convention [April 1998].

D. Brice and A. Kelley, 1998: "Coastal Upwelling and the Effects of El Nino", Presented at the 1998 NSTA National Convention [April 1998].

S. Caruana, 1998: "Rivers in the Ocean: A Current Affair", Presented at the 1998 NSTA National Convention [April 1998].

**Presentations by D.R. Smith on the Maury Project:**

\*"The Maury Project: A look to the future", (with I. Geer, D.E. McManus, J. Saltzman, M.E.C. Vieira, D.J. Whitford, W.A. Wright, Jr., R.M Robichaud, and J.T. Murphree), at the 7th Symposium on Education [Jan 98].

"The Maury Project - An Overview", (with I.W. Geer and D.E. McManus), at the Mid-Atlantic Marine Educators Association 97 Conference, Washington, D.C. [Nov 97].

\*Paper published in Conference Preprint Volume